

CLAIMS:

1. An array of magnetic memory cells provided with at least one security device (30), wherein the at least one security device (30) comprises a first magnetic element (10) and a second magnetic element (11) each having a pre-set magnetization direction, the pre-set magnetization direction of the first and second magnetic elements (10, 11) being different from each other, the first and second magnetic elements (10, 11) being suitable for aligning their magnetization direction with magnetic field lines of an externally applied magnetic field, to thereby indicate exposure of the array to said externally applied magnetic field.

5 2. An array of magnetic memory cells according to claim 1, wherein the first and
10 second magnetic elements (10, 11) comprise MRAM-cells.

15 3. An array of magnetic memory cells according to claim 2, the MRAM-cells (10, 11) having a free magnetic layer (18), wherein the MRAM-cells (10, 11) have pre-set inverse magnetization directions of their magnetic layer (18).

4. An array of magnetic memory cells according to claim 1, wherein the security device (30) is built adjacent to the magnetic memory cells that have to be protected.

5. An array of magnetic memory cells according to claim 1, there being a
20 plurality of security devices (30) spatially distributed amongst the magnetic memory cells in the array.

6. An integrated circuit comprising an array of magnetic memory cells according to claim 1.

25 7. An integrated circuit according to claim 6, furthermore comprising a control circuit for erasing data content of the magnetic memory cells and/or for blocking the functioning of the integrated circuit upon indication by the security device of exposure of the array to an externally applied magnetic field.

8. A method for indicating exposure of an array of magnetic memory cells to an external magnetic field, the method comprising changing a pre-set magnetization direction of a magnetic security device (30) when the array is exposed to the external magnetic field.

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9. A method according to claim 8, the security device (30) comprising a first magnetic element (10) having a first pre-set magnetization direction and a second magnetic element (11) having a second pre-set magnetization direction, the first and second pre-set magnetization directions being different from each other, the changing of the pre-set magnetization directions comprising aligning the magnetization direction of at least one of the first and second magnetic elements (10, 11) with the external magnetic field.

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10. A method according to claim 8, wherein the changing of the pre-set magnetization directions comprising changing the magnetization direction of at least one of two inversely magnetized MRAM-cells (10, 11).

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11. A method according to claim 8, the method further comprising determining the change in magnetization direction.

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12. A method according to claim 11, the security device (30) comprising a first and a second MRAM-cell (10, 11) with a pre-set magnetization direction, wherein the change in magnetization direction is determined by measuring a resistance difference of the first and second MRAM-cells (10, 11) of the security device (30).